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A Systematic Study of the Ichneumonidae (Hymenoptera) from Korea IX. The Tribe Phytodietini (Tryphoninae)*

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한국산 맵시벌 과의 분류학적 연구 9. 자루맵시벌 족(뭉툭맵시벌 아과)

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적 요

한국산 자루맵시벌 족을 재고찰한 결과 9종의 기존종이 확인 되었으며, 연구 결과 한국 미기록종인 *Netelia(Bessobates) kiuhabona* Uchida, *Netelia (Netelia) laevis* Cameron 2종 및 1신종인 *Netelia(Bessobates) coreensis, n.sp.*가 추가됨으로써 한국산 자루맵시벌 족에는 총 12종이 보고된다.

Key words: Ichneumonidae, Phytodietini, systematics, Korea.

INTRODUCTION

Tribe Phytodietini are moderate sized genera belonging to the subfamily Tryphoninae. This tribe include two genera, *Phytodietus* and *Netelia* from Holarctic region (Townes *et al.*, 1961, 1965). The species of this tribe are parasitic on lepidopterus pests of various agricultural crops and forest trees. These parasites play an important role in the biological control of insect pests.

In Korea, Uchida (1928, 1934, 1942) and Kim (1955, 1970) reported nine species [*Netelia* (*Apatagium*) *smithii, Netelia* (*Paropheltes*) *tarsata, Netelia* (*Bessobates*) *cristata, N.*(*B.*) *latungula, N.*(*B.*) *virgata, Netelia* (*Netelia*) *ocellaris, N.(N.) opacula, N.(N.) unicolor, N.(N.) testacea*] of genus *Netelia* for the first time.

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In this paper, two newly recorded (*N.*(*B.*) *kiuhabona, N.*(*N.*) *laevis*) and one new species (*N.*(*B.*) *coreensis, n.sp.*) were described from Korea. Keys to the Korean species, subgenera and genera of Phytodietini were also given. All examined specimens and type materials have been deposited in the collection of the Animal Taxonomy Laboratory, College of Science, Yeungnam University, Korea.

MATERIALS AND METHODS

All the examined materials were based on the specimens which were collected by the authors and other scientists during the period of 1947-1988 in Korea.

Preserved materials were identified under the stereomicroscope. Identified specimens were washed in pure iso-propyl alcohol four or five times and dried for two days in room temperature. Finally specimens sputtered with gold (15nm) and examined in the scanning electron microscope (ISI, SS-130, Japan).

In the present work, morphological terminology and indecies of wing followed that used by Townes (1969) and Gauld (1976).

RESULT

Subfamily Tryphoninae 뭉툭맵시벌 아과
Tribe Phytodietini 자루맵시벌 족(신칭)

Key to genera of tribe Phytodietini

1. Mandible not twisted, its lower tooth usually as large as upper tooth. Eye small, its margin not definitely notched opposite the antennal socket. Ocelli small and as far as distad of eyes. Ovipositer about 4.0 × as long as the apical depth of abdomen. ..... Genus *Phytodietus*
— Mandible twisted so that the upper tooth is considerably forward of the much shorter lower tooth. Eye large, its margin distinctly notched opposite the antennal socket. Ocelli large and almost always touching the eyes. Ovipositer about 1.0–2.0 × as long as the apical depth of abdomen. ..... Genus *Netelia*

Key to subgenera and species of Korean genus *Netelia*

1. Pectin of hind tarsal claws extending beyond true apex. Temple flat. Occipital carina absent. Areolet present. Notalus distinct. Mesopleurum weakly puntate. Nervulus more distad of basal vein..... (Subgenus *Apatagium*) ..... *N.* (*A.*) *smithii*
— Pectin of hind tarsal claws not extending beyond the true apex. Temple rather weakly to strongly convex. 2
2. Occipital carina completely absent. Lateral carina of scutellum usually extending less than half length of scutellum. Underside of first brachial cell bare..... (Subgenus *Bessobates*) 3
— Occipital carina present (except in *N.*(*N.*) *laevis*). Lateral carina of scutellum present or absent. Underside of first brachial cell bare or dense hair. 7
3. Face broadly convex in middle. Temples subangulary rounded off. Mesoscutum dark brown marks. Volsella with many long bristles. Pad semicircular sclerotized. Finely rugulose sculuptur of metathorax ..... *N.* (*B.*) *kiuhabona*

— Face narrowly convex in middle. Temples evenly or subangulary rounded off. Mesoscutum distinctly black marks present or absent. Volsella bristle and pad variable. 4

4. Mesoscutum and mesosternum with black or brown marks. 5
— Mesoscutum and mesosternum without marks. 6
5. Mesoscutum with brown marks. Bristle on volsella stout and sparse. Temples evenly rounded off. ..... *N. (B.) virgata*
— Mesoscutum and mesosternum distinctly black marks. Bristle on volsella long and sparse. Temples subangulary rounded off. ..... *N. (B.) coreensis n.sp.*
6. Pad sclerotized, without reticulated area present between pad and inner margin of gonofoceps. Bristle on volsella short and sparse. ..... *N.(B.) cristata*
— Pad sclerotized, reticulated area present between pad and inner margin of gonofoceps. Bristle on volsella short and dense. ..... *N.(B.) latungula*
7 .Lateral carina of scutellum absent. Thorax yellow, mostly polished or mat with fine. Underside of first brachial cell with dense hair..... (Subgenus *Paropheltes*) ..... *N. (P.) tarsata*
— Lateral carina of scutellum reaching to its apex. Thorax usually yellow, polished with fine. Underside of first brachial cell bare..... (Subgenus *Netelia*) 8
8. Occipital carina absent. Temples weakly convex and sharply receding at back. Thorax smooth and polished with fine weak punctures. Areolet obilique. Second recurrent vein moderatly arched. ..... *N. (N.) laevis*
— Occipital carina present. Temples moderatly to strong convex and receding at back. 9
9. Face 1.63 × as long as width. Hind tibial spur 0.60× as long as tibia. Metapleuron and propodeum fine and polish. ..... *N. (N.) opacula*
— Face 1.0-1.58× as long as width. Hind tibial spur 0.50× as more long as tibia. Metapleuron propodeum weakly mat or polish. 10
10. Temples broadly convex. Submedian cell with scattered hair apically. Notauli pale. *N. (N.) unicolor*
— Temples moderatly convex. Submedian cell bare apically. Notauli variable. 11
11. Ovipositer 1.16-1.45× as long as apical depth of abdomen. ..... *N. (N.) ocellaris*
— Ovipositer 1.69-1.76× as long as apical depth of abdomen. ..... *N. (N.) testacea*

Genus Netelia Gray, 1860 자루맵시벌 속

Netelia Gray, 1860 (p. 341).

Subgenus *Apatagium* Enderlein, 1912 스미드자루맵시벌 아속(신칭)

Apatagium Enderlein, 1912 (p. 115).
Anomaloctenus Cushman, 1934 (p. 4).

1. Netelia (Apatagium) smithii (Dalla Torre) 스미드자루맵시벌 (Fig. 49)

Ophion unicolor Smith, 1874 (p. 397).
Ophion smithii Dalla Torre, 1901 (p. 198). New name.
Amebachia coreana Uchida, 1928 (p. 199).
Netelia (Apatagium) smithii, Townes, Momoi & Townes, 1965 (p. 85).

Material Examined: Ullungdo (24. IX. 1981, 1♀), Sudongmyŏn; Kwongwondo (13. IX. 1980, 1♀).

Measurements: PI:0.44-0.52, TI:4.67-6.00, CI:0.50-0.67, BI:0.92-1.30, DBI:0.50-0.53, MI:1.24- 1.26, ICI:0.27-0.40, NI:0.33-0.45, RI:2.56-2.65, IOD/OOD:3.00-4.00, IOD/POD:1.00, IOD/MOD: 0.43-0.57, POD/MOD:0.43-0.57.

Distribution: Korea, Formosa, Japan.

Subgenus *Bessobates* Townes, Townes & Gupta, 1961 등검정자루맵시벌 아속(신칭)

Netelia (Bessobates) Townes, Townes & Gupta, 1961 (p. 93).

2. *Netelia (Bessobates) kiuhabona* (Uchida) 큰자루맵시벌(신칭) (Figs. 5,16,25,29,36,41)

Parabatus kiuhabonus Uchida, 1928 (p. 195).

Netelia (Bessobates) kiuhabona, Townes, Momoi & Townes, 1965 (p. 97).

Material Examined: Sangbukmyŏn, Ulchugun (21 VI 1978,1♀; 22 VI, 14♂♂ 2♀♀; 23 VI, 6♀♀, 15♂♂; 24 VI,9♂♂; 25 VI,7♂♂), Hallasan, Chejudo (22 V 1968,1♂; 2 VI, 1♂; 5 VI, 7♀♀ 13♂♂; 3 VII, 1♀; 3V III 1981,1♂), Sobaeksan, Kyŏngsangbukdo (5 VI 1981,4♂♂; 6 VI,1♂; 22 VII 1988, 1♂), Chirisan, Kyŏngsangnamdo (24 VI 1984,1♀; 6 V 1986,1♂), Sŏraksan, Kwangwondo (27 VI 1947,1♀), Hamyang, Kyŏngsangnamdo (23 VII 1985,1♀), Hongch'ŏn, Kwangwondo (23 VI 1984,1♂).

Measurements: PI:0.40-0.56, TI:2.20-3.67, CI:0.72-0.97, BI:0.94-1.23, DBI:0.66-0.71, MI:1.24-1.61, ICI:0.34-0.49, NI:0.40-0.65, RI:3.41-4.28, IOD/OOD:4.00-6.00, IOD/POD: 0, IOD/MOD:0.36-0.44, POD/MOD:0.42-0.54.

Remark: This species is recorded for the first time from Korea.

Distribution: Korea, China, Formosa.

3. *Netelia (Bessobates) virgata* (Fourcroy) 등검정자루맵시벌 (Figs. 22,33,46)

Ichneumon virgatus Fourcroy, 1785 (p. 401).

Netelia (Parabates) virgatus Townes, 1938 (p. 217).

Netelia (Bessobates) virgata, Townes, Momoi & Townes, 1965 (p. 98).

Material Examined: Hallasan, Chejudo (22 VI 1968, 1♂; 2 VI, 3♂♂; 27 VI,1♂), Sŏraksan, Kwangwondo (30 VI 1969, 2♂♂), T'aebaek, Kwangwondo (20 VI 1980,1♀), Kyeryongsan, Ch'ungch'ŏngnamdo (9 VII 1987,1 ♂ 1♀), Sangbukmyŏn, Ulchugun (22 VI 1987, 1♀; 23 VI,1♂ 2♀♀; 24 VI,1♀; 25 VI,1♀).

Measurements: PI:0.44-0.57, TI:4.00-5.00, CI:0.40-0.42, BI:0.81-1.00, DBI:0.74-0.94, MI:1.90-1.97, ICI:0.38-0.41, NI:0.35-0.71, RI:3.79-3.91, IOD/OOD:5.00-6.00, IOD/POD:0, IOD/MOD: 0.45-0.71, POD/MOD:0.18-0.43.

Distribution: Korea, Japan, France, Russia, Sweden.

4. *Netelia (Bessobates) coreensis,* *n.sp.* 가슴검은자루맵시벌(신칭) (Figs. 7,13,20,26,32,35,47)

Holotype: 1♂ Hallasan, Chejudo, 28 V 1968, S.M. Lee;

Paratypes: Hallasan, Chejudo (28 V 1968, 14.♂♂ 3,♀♀ S.M. Lee; 2 VI 1968, 3.♂♂ 2,♀♀ 31 VII 1968, 2,♂♂ J.S. Park), Chirisan, Kyŏngsangnamdo (31 VII 1984, 2,♂♂ J.S. Park), Tobongsan, Seoul (7 VII 1982, 1,♀ K.S. Ahn).

Measurements: PI:0.40-0.54, TI:2.33-3.50, CI:0.33-0.75, BI:0.94-1.71, DBI:0.73-0.83, MI:1.74-2.06, ICI:0.36-0.57, NI:0.42-0.56, RI:2.93-3.46, IOD/POD:0, IOD/MOD:0.3-0.4, POD/MOD:0.50-0.67.

Description: Female: Compound eye 0.42-0.51 × as long as width; black. Ocelli small; ocellar triangle yellow. Head 1.38-1.45× as long as width. Temple weakely convex; yellow; fine. Occipital carina

absent. Frons 1.14-1.50× as long as width; fine. Face 1.17-1.38× as long as width; narrowely convex in middle; yellow; fine. Labrum without exposed. Clypeus large; turncate. Mandible yellow; large; its lower tooth smaller than the upper. Maxillary palp with 5 segments. Labial palp with 4 segments. Antenna with 45-49 segments; yellow with brownish; 1.20-1.25× as long as fore wing. First segment antenna 1.29-1.38× as long as the second; second segment 0.80-0.88× as long as fifth.

Mesosctum 0.69-0.87× as long as width; black; its three distinctly black marks. Notalus strong. Scutellum yellow. Lateral carina of scutellum reaching less than 0.80 the length of scutellum. Pronotum yellow. Epomia absent. Mesopleuron yellow. Mesosternum with black marks. Prepectal carina completed. Propodeal spiracle about 2.00-3.00× as long as width. The first abdominal tergite median longitudinal carina absent. Juctacoxal carina and submetapleural carina strong.

Fore, mid and hind legs yellow. Fore femur 0.16-0.20× as long as width. The length ratios of fore tarsal segments 4:2:1.5:1:1.5. Mid femur 0.13-0.17× as long as width. Mid tibia with two spur; mid spur of reaching less than 0.50 the length of tibia. The length ratios of mid tarsal segments 4.3:2:1.5:1:1.5. Hind femur 0.12-0.14× as long as width. Hind tibia with two spur; hind spur of tibia reaching less than 0.50 the length of tibia. The length ratios of hind tarsal segments 4.6:2.4:1.6:1:1.2.

Abdomen yellow. Front wing 10-12mm. Areolet present. Second recurrent weakly arched. Discocubital vein strongly arched. Nervulus very weakly distard. Basal hamulus 1; distal hamuli 7-9.

Male: Gonoforceps round at apex; pad smicircular, weakly sclerotized, bristle on volsella sparse and long; cuspis broader and tuncated at apex.

Remark: This species is morphological closely related to *N.(B.) cristata* from which it differs in mesoscutum with three distinctly black marks and mesosternum with black marks.

Distribution: Korea.

5. Netelia (Bessobates) cristata (Thomson) 줄자루맵시벌 (Figs. 6,15,23,30,34,42)

Parabatus cristatus Thomson, 1888 (p. 1197).

Netelia (Bessobates) cristata, Townes, Momoi & Townes, 1965 (p. 96).

Material examined: Hallasan, Chejudo (31 VII 1967, 1♀; 5 V 1968, 1♀; 5 VI,1♀; 23 VII, 1♂), Soraksan, Kyŏnggido (24 VI 969, 1♀; 28 VI 1984,1♀), Puramsan, Kyŏnggido (29 X 1982, 1♀), Tobongsan, Seoul (16 XI 1982, 1♀; 17 XI, 1♀), Sangbukmyŏn, Ulchugun (23 VI 1987, 1♀); 24 VI, 1♂), Kwanaksan, Seoul (3 X 1987, 1♀), Ŭngogea, Kyŏnggido (1 X 1980,1♀), Yongkyeri, Kyŏnggido (28 V 1968,1♂), Sobaeksan, Kyŏngsangbukdo (22 VII 1988, 2♀♀).

Measurements: PI:0.44-0.50, TI:3.50-4.00, CI:0.67-0.80, BI:1.08-1.18, DBI:0.71-0.77, MI:1.34-1.53, ICI:0.23-0.35, NI:0.56-0.71, RI:5.08-9.20, IOD/OOD:6.00, IOD/POD: 0, IOD/MOD:0.50-0.88, POD/MOD:0.33-0.50.

Distribution: Korea, China, Russia, Sakhalin, Sweden.

6. Netelia (Bessobates) latungula (Thomson) 민자루맵시벌 (Figs.8,14,21,31,48)

Parabates latungula Thomson 1888 (p. 1196).

Netelia (Bessobates) latungula, Townes, Momoi & Townes, 1965, (p. 98).

Material Examined: Chirisan, Kyŏngsangnamdo (30 VII 1981, 1♂; 30 VII 1984, 1♂), Hallasan, Chejudo (2 VIII 1955, 1♀; 31 VII 1967, 1♂; 2 VI 1968, 1♂; 12 VIII 1981, 1♂), Kŏjedo (3 VII 1986, 1♂), Samjangmyŏn, Kyŏngsangnamdo (4 V 1968, 1♂).

Measurements: PI:0.67, TI:4.00, CI:0.63, BI:1.29, DBI:0.76, MI:2.00, ICI:0.31, NI:0.57, RI:3.38,

IOD/OOD:6.00, IOD/POD:0, IOD/MOD:0.67, POD/MOD:0.33.

Distribution: Korea, China, Japan, Russia, Sweden.

Subgenus *Paropheltes* Cameron, 1907 꼬리애자루맵시벌 아속(신칭)

Paropheltes Cameron, 1907, (p. 1011).

7. Netelia (Paropheltes) tarsata (Brischke) 꼬리애자루맵시벌 (Figs.4,9,17,27,39,44)

Paniscus tarsatus Brischke, 1880 (p. 138).

Netelia (Parabates) tarsata, Townse, 1938 (p. 178).

Netelia (Paropheltes) tarsata, Townes, Momoi & Townes, 1965 (p. 92).

Material Examined: Tobongsan, Seoul (12 VI 1981, 1♂), Sangbukmyŏn, Ulchugun (22 VI 1987, 1♂; 23 VI, 1♂), Sobaeksan, Kyŏngsangbukdo (5 VI 1981, 2♂♂), Mungyŏn, Kyŏngsangbukdo (5 VI 1983, 1♂).

Measurements: PI:0.46-0.54, TI:3.00-4.50, CI:0.42-0.73, BI:0.92, DBI:0.65-0.81, MI:1.57-1.68, ICI:0.28-0.35, NI:0.37-0.45, RI:3.15-5.08, IOD/OOD:6.00, IOD/POD:0.6-1.20, IOD/MOD:0.27-0.50, POD/MOD:0.42-0.45.

Distribution: Korea, Japan, Russia, Sakhalin, U.S.A.

Subgenus *Netelia* Gray, 1860 자루맵시벌 아속(신칭)

Netelia Gray, 1860 (p. 341).

Scammatonotum Enderlein, 1914 (p. 121).

Amebachia Uchida, 1928 (p. 218).

8. Netelia (Netelia) laevis (Cameron) 레비스자루맵시벌(신칭) (Figs. 2,19,50)

Paniscus laevis Cameron, 1905 (p. 127).

Netelia (Netelia) laevis, Townes, Townes & Gupta, 1961 (p. 103).

Material Examined: Kajwadong, Chinjushi (26 V 1987, 1♀), Chirisan, Kyŏngsangnamdo (30 VII 1987, 2♂♂), Hallasan, Chejudo (6 VIII 1981, 2♂♂).

Measurements: PI:0.53, TI:2.50, CI:0.56-0.57, BI:1.17-2.00, DBI:0.65-0.74, MI:1.46-1.47, ICI:0.33-0.54, NI:0.40-0.50, RI:2.62-3.56, IOD/OOD:4.00, IOD/POD:0, IOD/MOD:0.67, POD/MOD:0.17.

Remark: This species is recorded for the first time from Korea.

Distribution: Korea, India, U.S.A.

9. Netelia (Netelia) opacula (Thomson) 큰얼굴자루맵시벌(신칭) (Fig. 52)

Paniscus opaculus Tomson, 1888 (p. 1199).

Netelia (Netelia) opacula, Townes, Momoi & Townes, 1965 (p. 92).

Material Examined: Kyŏngsan, Kyŏngsangbukdo (8 V 1987, 1♀).

Measurements: PI:0.60, TI:2.00, CI:0.71, BI:0.89, DBI:0.75, MI:1.4, ICI:0.38, NI:0.33, RI:2.30, IOD/OOD:2.00, IOD/POD:2.00, IOD/MOD:0.50, POD/MOD:0.25.

Distribution: Korea, China, Japan, India, Burma, Russia, France, Austeria, Fiji Island, Finland, Italy, Germany, Spain, Sweden.

10. Netelia (Netelia) unicolor (Smith) 단색자루맵시벌 (Figs. 10,24,28,40,51)

Paniscus unicolor Smith, 1874 (p. 396).

Netelia (Netelia) unicolor, Townes, Momoi & Townes, 1965 (p. 95).

Material Examined: Chirisan, Kyŏngsangnamdo (2 VI 1984, 1♀; 24 VI 1986, 1♀), Kyŏngsan, Kyŏngsangbukdo (7 V 1987, 1♀), Sŏraksan, Kwangwondo (30 VI 1969, 1♀), Sobaeksan, Kyŏngsangbukdo (5 VI 1981, 2♀♀), Annamdong, Seoul (30 VI 1986, 1♀), Chunwangsan, Kyŏngsangnamdo (24 VII 1984, 1♂).

Measurements: PI:0.50-0.61, TI:2.00-3.50, CI:0.54-0.83, BI:0.87-1.33, DBI:0.62-0.95, MI:1.44-1.57, ICI:0.28-0.38, NI:0.44-0.62, RI:2.79-4.79, IOD/OOD:2.00-3.00, IOD/POD:0.50-0.67, IOD/MOD:0.25-0.67, POD/MOD:0.33-0.63

Distribution: Korea, Japan, Formosa.

11. Netelia (Netelia) ocellaris (Thomson) 밤나방살이자루맵시벌 (Figs. 1,11,37,45)

Paniscus ocellaris Thomson, 1888 (p. 1199).

Netelia (Netelia) ocellaris, Townes, Momoi & Townes, 1965 (p. 90).

Material Examined: Sŏraksan, Kwangwondo (17 VIII 1987, 1♀), Ch'ŏnhwangsan, Kyŏngsangbukdo (18 VII 1986, 1♂; 24 V 1987, 1♀), Kyŏngsan, Kyŏngsangbukdo (10 IX 1987, 1♀), Soyosan, Seoul (4 VI 1977, 1♂), Ch'onmasan, Kyŏnggido (11 IX 1982, 1♂; 18 VI 1983, 1♂; 3 VI, 1♀), Namhansangsong, Seoul (27 VII 1972, 1♀; 26 IX 1981, 1♀), Sangbukmyŏn, Ulchugun (23 VI 1987, 2♂♂; 22 VI, 2♂♂. 1♀; 21 VII, 1♂; 10 VIII, 1♀. 1♂; 16 VIII., 1♀), Bokwangsa, Kyŏnggido (4 V 1984, 1♀), Kajwadong, Chinjushi (28 V 1987, 1♀), Hallasan, Chejudo (31 VII 1967, 28♀♀, 4♂♂; 5 VI 1968, 1♀. 2♂♂; 23 VI, 1♀; 25 VII, 2♂♂. 1♀, 6 VIII 1981, 1♀; 6 VII 1987, 1♀), Ch'ŏngnyangsan, Kyŏngsanbukdo (31 VII 1987, 4♀♀), Ŭngogae, Kyŏnggido (23 X 1982, 2♀♀; 11 X 1♀), Hwangkaksan, Kyŏngsangbukdo (4 VII 1978, 1♂; 2 VI, 1♂), Ch'ŏngnyangri, Seoul (26 IV 1948, 1♂; 1 VI 1960, 1♂. 2♀♀), Sobaeksan, Kyŏngsangbukdo (31 VII 1988, 3♀♀).

Measurements: PI:0.46-0.67, TI:3.00-3.50, CI:0.40-0.69, BI:0.80-0.90, DBI:0.75-0.90, MI:1.27-1.72, ICI:0.35-0.43, NI:0.40-0.86, RI:2.78-2.91, IOD/OOD:4.00-5.00, IOD/POD: 0.67-1.25, IOD/MOD: 0.38-0.43, POD/MOD:0.33-0.50.

Distribution: Korea, China, Japan, India, Russia, France, Finland, Germany, Sweden.

12. Netelia (Netelia) testacea (Gravenhorst) 연고등자루맵시벌 (Figs. 3,12,18,38,43)

Paniscus testaceus Gravenhorst, 1829 (p. 626).

Netelia (Netelia) testacea, Townes, Momoi & Townes, 1965 (p. 94).

Material Examined: Naejangsan, Chŏllabukdo (27 IV 1980, 1♂), Sangbukmyŏn, Ulchugun (21 VI 1987, 1♂; 22 VI, 2♂♂; 23 VI, 1♂; 24 VI, 1♂), Youngmunsan, Kyŏnggid (29 V 1982, 2♂♂; 2 V 1987, 1♂), Onyangonch'on, Ch'unbgch'ongnamdo (8 V 1983, 1♂), Tobongsan, Seoul (1 VI 1986, 2♂♂; 25 V, 1♂; 19 V 1980, 1♂; 26 VI, 1♂; 5 VI 1986, 1♂; 25 VI 1♂; 6 VI 1983, 1♂), Hallasan, Chejudo (5 VI 1968, 2♂♂; 17 VI, 1♂♂; 25 VII, 1♂; 6 VIII, 1♂; 3 VIII. 1959, 1♂; 6 VI 1972. 1♀; 31 VII 1967, 7♀♀. 2♂♂; 3 V 1956, 1♂), Bokwangsa, Kyŏnggido (16 VII 1977, 1♀; 9 VI 1979, 1♀; 28 V 1978, 1♂); Ch'onmasan, Kyŏnggido (4 VI 1983, 2♀♀; 22 V 1969, 1♂), Ch'ŏnggyesan, Kyŏnggido (6 VI 1986, 2♂♂; 18 VI, 1♂; 5 VI, 1♂), Soyosan, Kyŏnggido (31 V 1983, 1♂. 1♀; 21 V, 1♂), Jungnŭng, Kyŏnggido (6 VI 1986, 1♀. 6♂♂), Kwangnŭng, Kyŏnggido (28 V 1972, 1♂).

Measurements: PI:0.51-0.54, TI:2.75-3.00, CI:0.62-0.33, BI:0.87-1.27, DBI:0.65-0.67, MI:1.33-1.45,

ICI:0.32-0.40, NI:0.32-0.54, RI:2.95-3.13, IOD/OOD:3.00-5.00, IOD/POD:1.20-1.67, IOD/MOD: 0.56-0.75, POD/MOD:0.33-0.57.

Distribution: Korea, China, Japan, India, Iran, Russia, Europe.

ABSTRACT

As result of a revisional study of Korean Phytodietini, subfamily Tryphoninae, total of 12 species were reconized, including two newly recorded species from Korea and one new species. Keys to the Korean genera, subgenera and species of Phytodietini were also given. Two newly recorded and one new species were *Netelia* (*Bessobates*) *kiuhabona* (Uchida), *Netelia* (*Netelia*) *laevis* (Cameron) and *Netelia* (*Bessobates*) *coreensis, n.sp.*

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EXPLANATIONS OF FIGURES

Shape of clypeus (Figs. 1-8.)

1. *N.(N). ocellaris* (X60); 2. *N.(N.) laevis* (X70); 3. *N.(N.) testacea* (X60);
4. *N.(P.) tarsata* (X50); 5. *N.(B.) kiuhabona*(X45); 6. *N.(B.) cristata* (X60);
7. *N.(B.) coreensis* (X70); 8. *N.(B.) latungula* (X70).

Lateral view of propodeum (Figs. 9-16.)

9. *N.(P.) tarsata* (X35); 10. *N.(N.) unicolor* (X35); 11. *N.(N.) ocellaris* (X30);
12. *N.(N.) testacea* (X35); 13. *N.(B.) coreensis* (X52); 14. *N.(B.) latungula* (X52);
15. *N.(B.) cristata* (X31); 16. *N.(B.) kiuhabona* (X33).

Hind tarsal claws (Figs. 17-24.)

17. *N.(P.) tarsata* (X250); 18. *N.(N.) testacea* (X200); 19. *N.(N.) laevis* (X350);
20. *N.(B.) coreensis* (X200); 21. *N.(B.) latungula* (X200); 22. *N.(B.) virgata* (X200);
23. *N.(B.) cristata* (X300); 24. *N.(N.) unicolor (X270).*

Shape of propodeal spiracle (Figs. 25-28).

25. *N.(B.) kiuhabona* (X300); 26. *N.(B.) coreensis* (X540); 27. *N.(P.) tarsata* (X400);
28. *N.(N.) unicolor* (X450).

Pattern of metathorax and sculpturing (Figs. 29-32.)

29. *N.(B.) kiuhabona* (X540); 30. *N.(B.) cristata* (X750); 31. *N.(B.) latungula* (X100);
32. *N.(B.) coreensis* (X100).

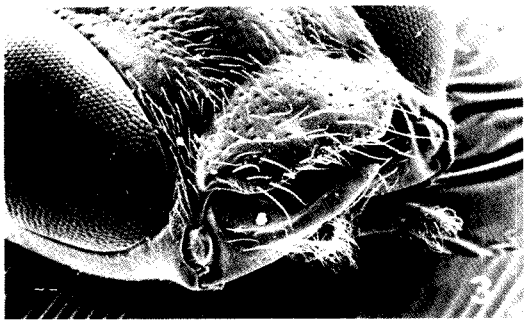
Shape of genitalia and ovipositor (Figs. 33-40.)

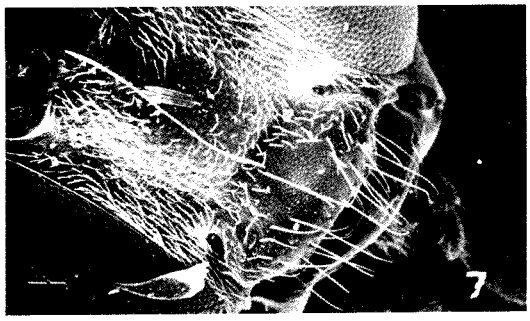
33. *N.(B.) virgata* (X350); 34. *N.(B.) cristata* (X400); 35. *N.(B.) coreensis* (X450);
36. *N.(B.) kiuhabona* (X300); 37. *N.(N.) ocellaris* (X400); 38. *N.(N.) testacea* (X350);
39. *N.(P.) tarsata* (X350); 40. *N.(N.) unicolor* (X260).

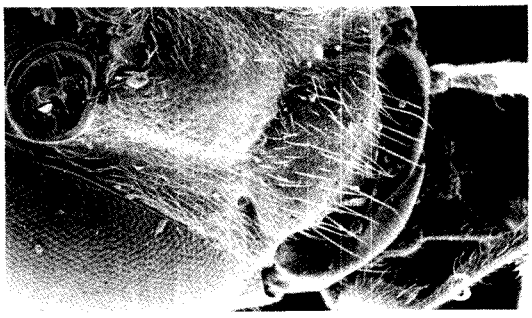
Shape of wings (Figs. 41-52.)

41. *N.(B.) kiuhabona;* 42. *N.(B.) cristata;* 43. *N.(N.) testacea;* 44. *N.(P.) tarsata;*
45. *N.(N.) ocellaris;* 46. *N.(B.) virgata;* 47. *N.(B.) coreensis;* 48. *N.(B.) latungula;*
49. *N.(A.) smithii;* 50. *N.(N.) laevis;* 51. *N.(N.) unicolor;* 52. *N.(N.) opacula.*

* Scale size 100μm: Figs. 1-16, 18, 20-24, 29-32.
Scale size 10 μm: Figs. 17, 19, 25-28.
Scale size 2.5mm: Figs. 41-52.







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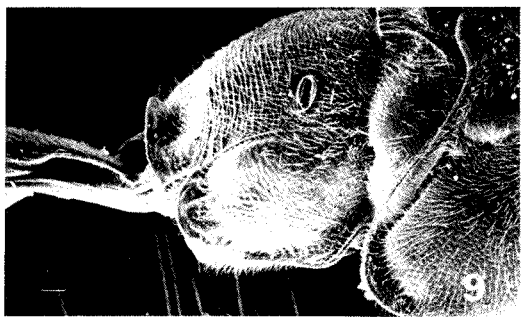

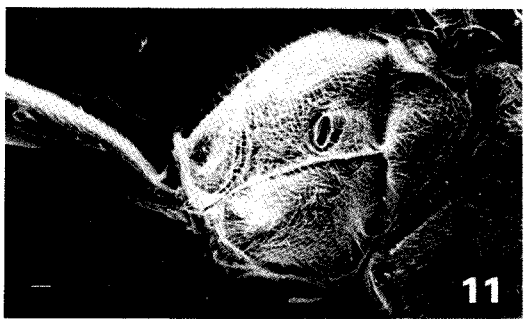

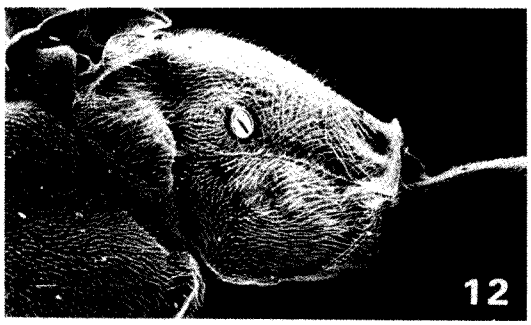

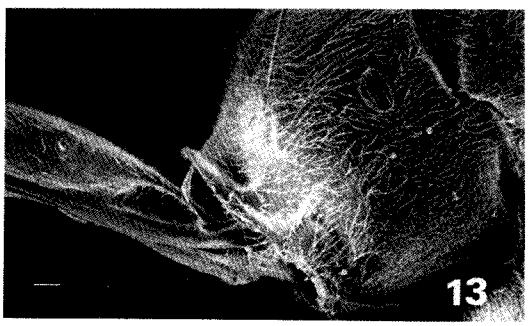

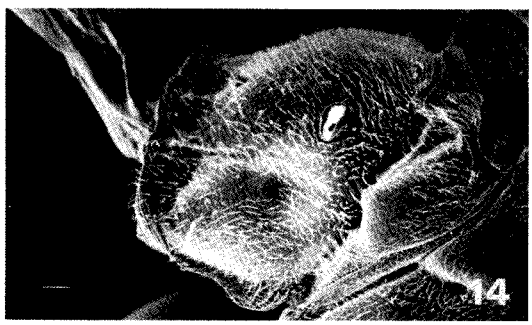

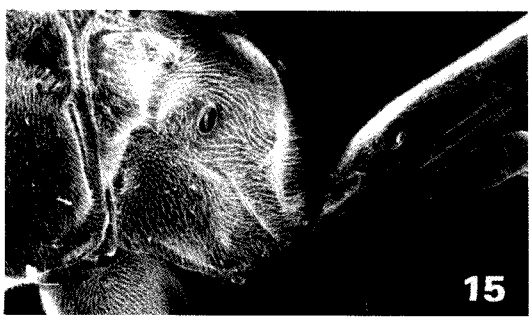

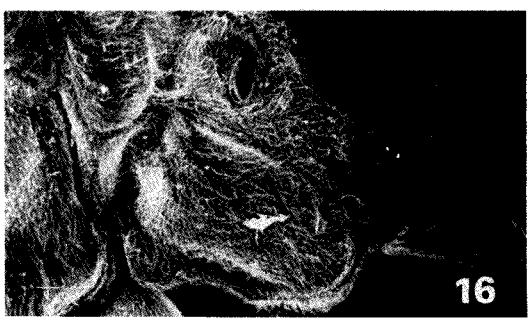

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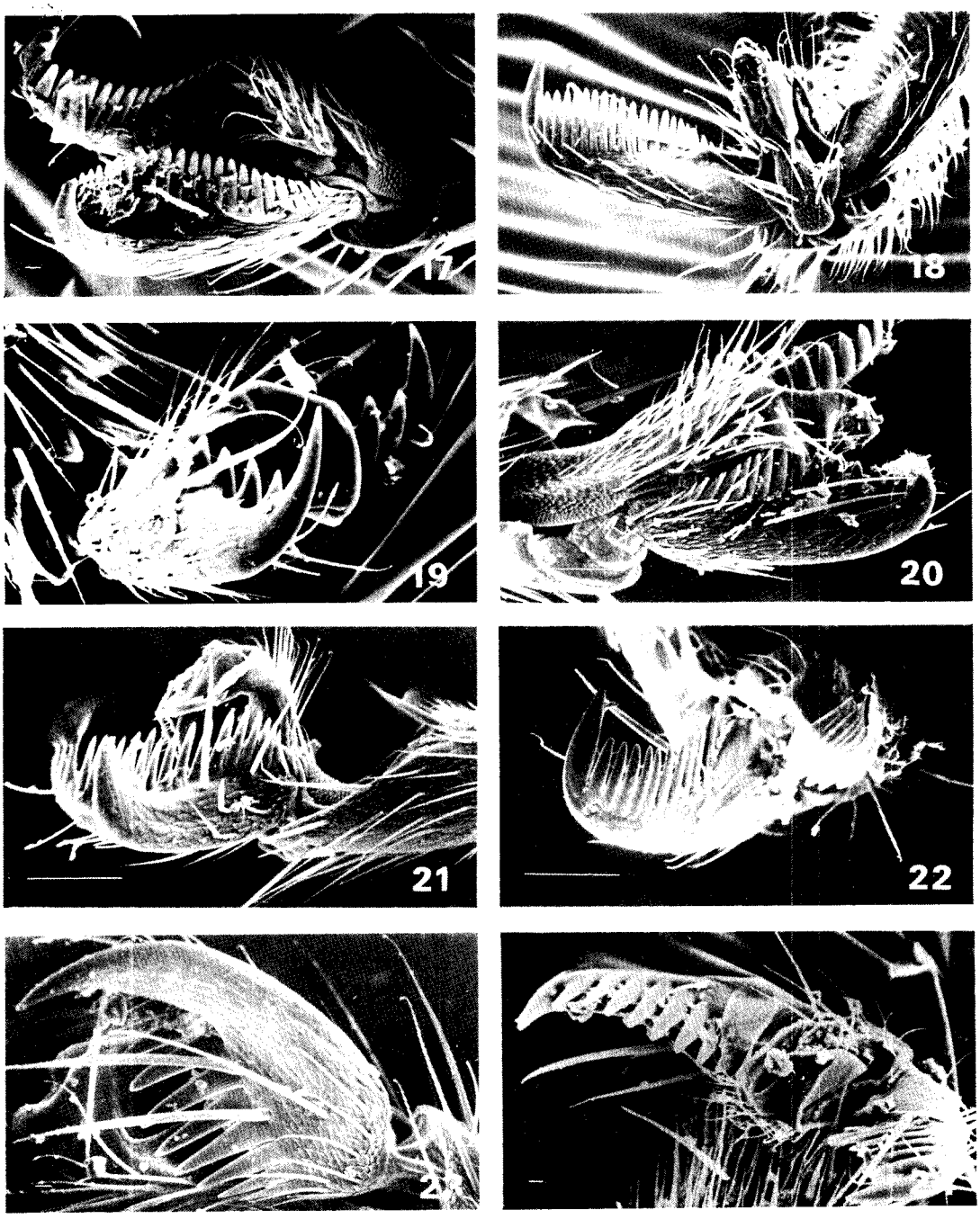
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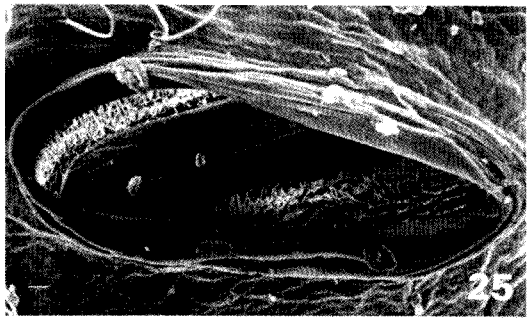

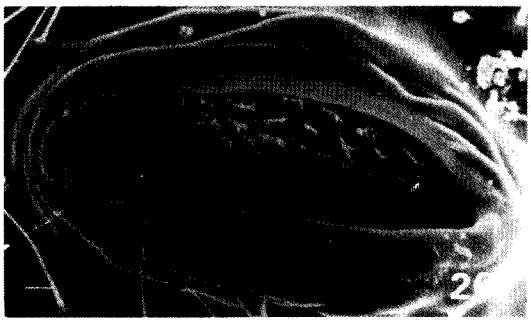

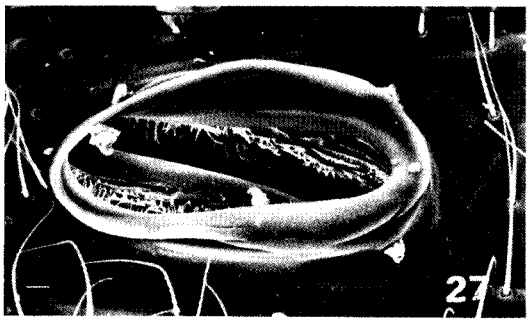

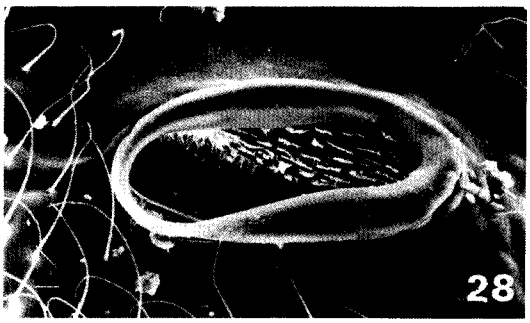

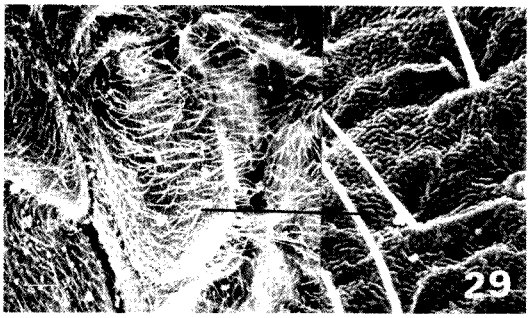

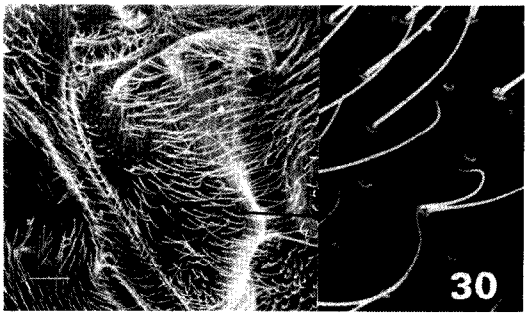

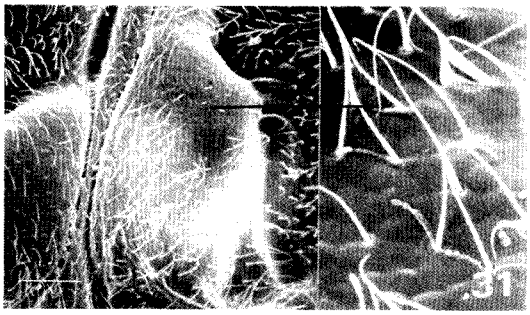

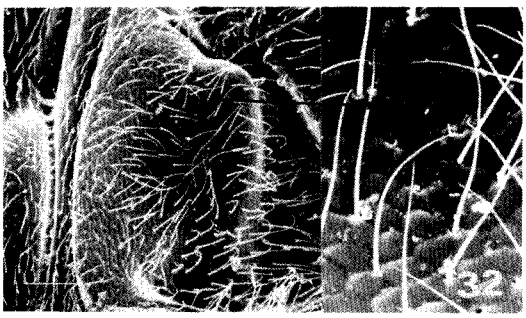

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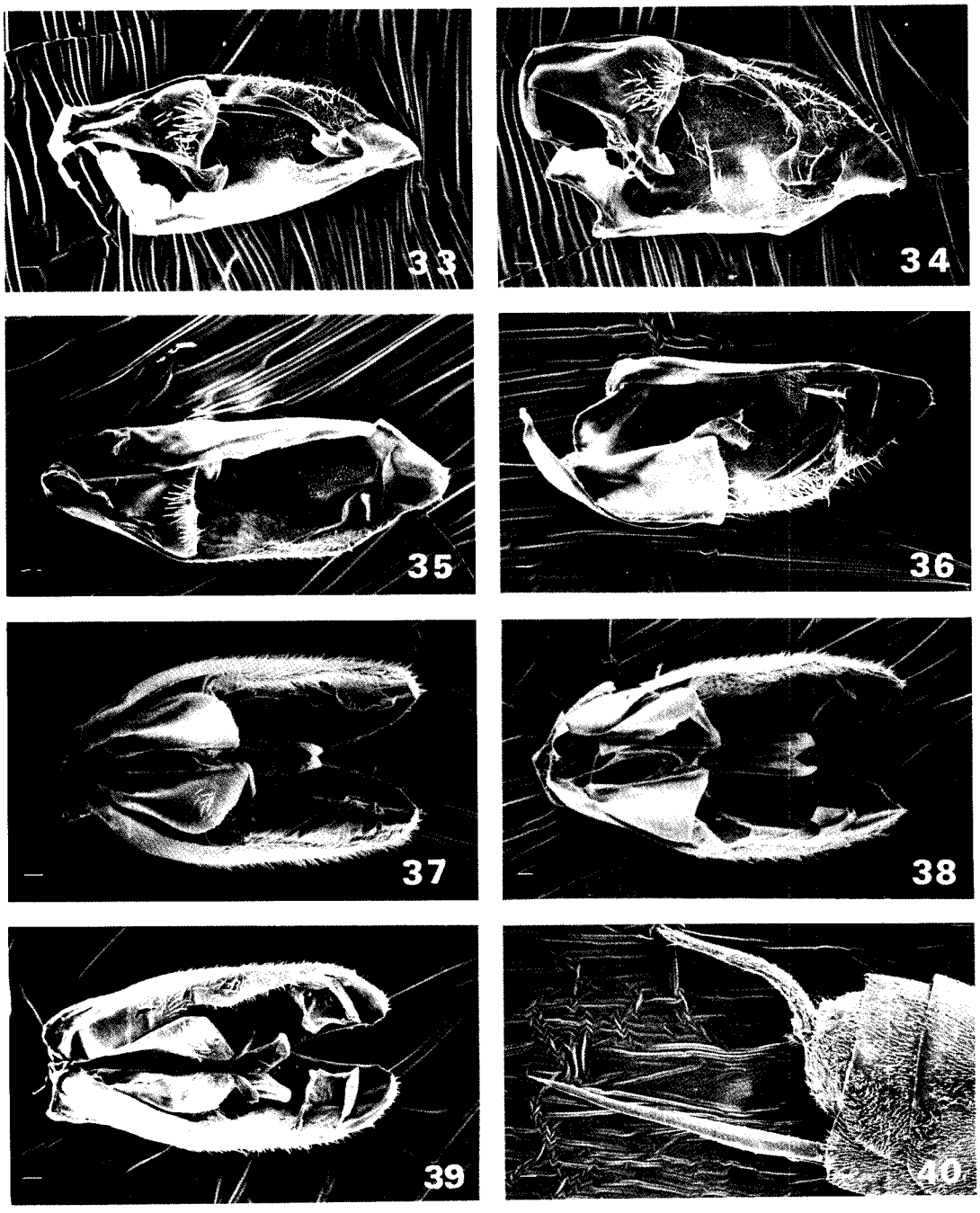

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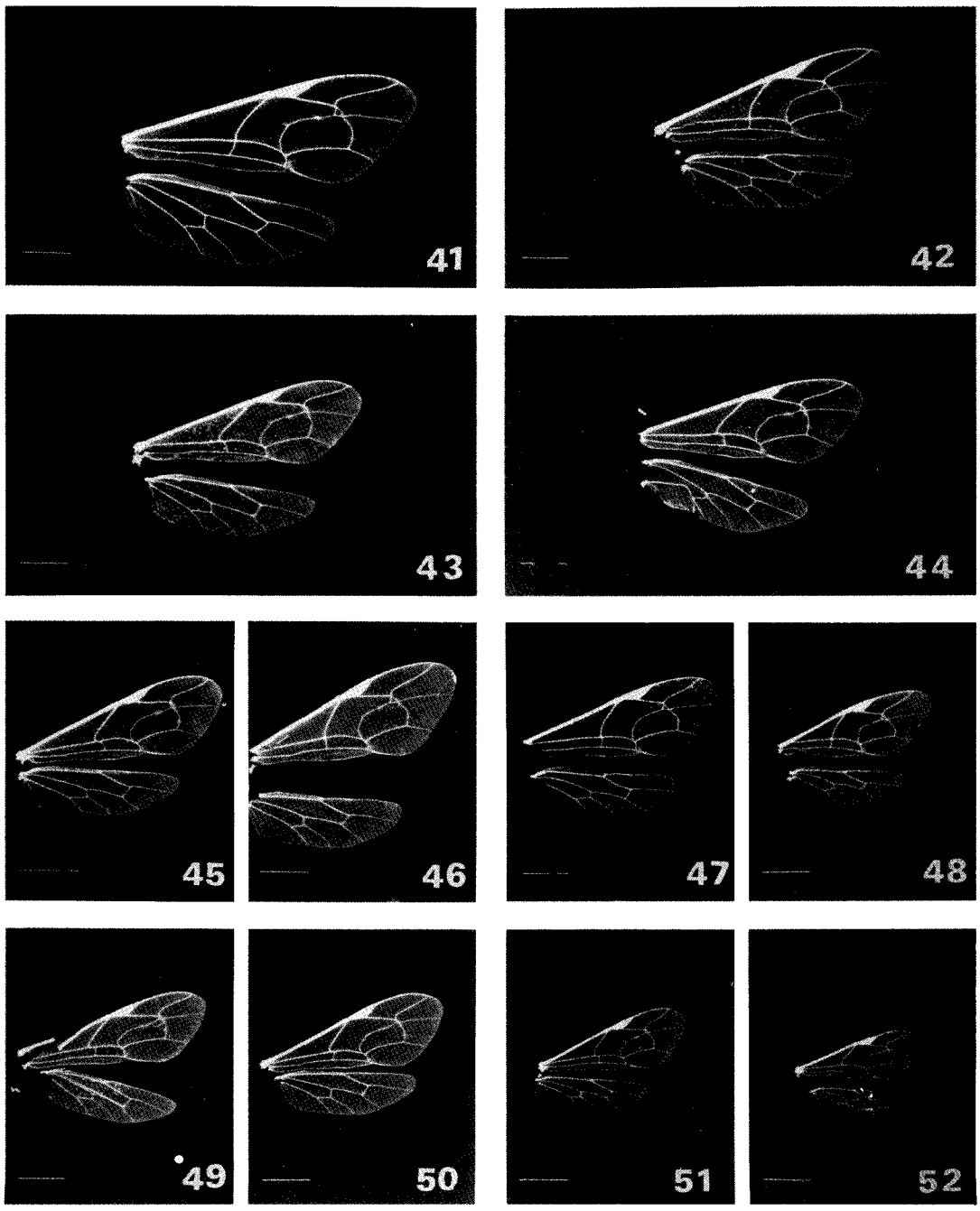
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